

PHENIX WEEKLY PLANNING



5/3/2012
Don Lynch

TECHNICAL
SUPPORT
2012

This Week

- U-U run continues
- No scheduled maintenance access this week? Next scheduled maintenance access: 5/9/12
- sPHENIX design and analysis continues, EMCal vendor meeting this afternoon
- MPC-EX review prep meeting this afternoon
- 2012 Shutdown prep continues
- Other Business

Next Week

- U-U run continues
- Next scheduled maintenance access day Wednesday 5/9
- sPHENIX design and analysis continues
- 2012 Shutdown prep continues
- Other Business

Looking Ahead to the 2012 Shutdown (Continued)

Prep for shutdown	2/1-6/25/2011
Define tasks and goals	
Analysis and design of fixtures, tools and procedures	
Fabricate/procure tools and fixtures	
Tests, mockups, prototypes	
Receive, fabricate, modify, finish installables	
Review and approval of parts, tools, fixtures and procedures	
Assembly and QA tests	
AH Crane Upgrade (variable speed & wireless remote)	
Run 12 Ends	6/25/2012
Shutdown Standard Tasks	6/25-7/20/2012
• Open wall, disassemble wall, Remove MuID Collars,	
• Move EC to AH, etc.	
Disassemble VTX/FVTX services	7/2-7/27/2012
Remove VTX/FVTX and transport to Chemistry Lab	7/30/2012
Remove MMS & MMN vertical East lampshades	7/23-7/27/2012
Summer Sunday (8/5) Prep and teardown	8/1-8/7/2012
Summer Sunday (RHIC)	8/5/12
MuTr South Station 1 work	
Install access (Sta. 1 work platforms)	7/30-8/3/2012
Disconnect Cables, hoses etc, ID/label all	8/6-8/10/2012
Remove FEE plates and chambers	8/13-8/17/2012
Station 2 Terminators and manifold upgrade through access opened by station 1 removal	8/20/-8/31/2012

Looking Ahead to the 2012 Shutdown (Continued)

TECHNICAL SUPPORT ZONE

MuTr South Station 1 work (Cont'd)

Clean/install new MuTr Sta. 1 chamber parts and upgrades
(concurrent At RPC Factory)

Re-install chambers and FEE plates

Re-cable, re-hose and test

Repair upgrade, test, reinstall VTX/FVTX

Station 3 North and South (upper half)

re-capacitation and air manifold upgrades

Substation breaker upgrade/test (CAD)

AH utility power distribution upgrade

DC West maintenance (replace window?)

RPC stations 1 and 3, north and south maintenance

Other detector maintenance as required

Infrastructure maintenance as required

TBD prototype tasks

pre-run commissioning and prep for run 13

Prep for EC roll in

Roll in EC

Prep IR for run

Pink/Blue/White sheets

Start run 13

8/20/-9/7/2012

9/10-9/14/2012

9/10-9/28/2012

7/23-10/26/2012

7/23-9/30/2012

8/20-9/30

8/20-9/30

9/15-10/15

As required

As required

As required

As required

11/1-12/31/2012

11/12-11/16/2012

11/19-11/23/2012

11/26-12/3/2010

12/3-12/21/201

1/1/2013



New Electrical Work for 2012 Shutdown, not yet scheduled

1. Support CAD replacement of Assembly Hall 480V Fused Switch Panels #8H-1, 8H-2, and 8 EMH1. Coordinate temporary power patch while work is being performed and minimize impact on shutdown work.
2. Add the Assembly Hall Crane lockout/contactors/ indicator light key switch circuit - similar to IR Crane.
3. Add Transient Surge Suppressor to 3 phase power panel on the Central Magnet Bridge.
4. The Gas Mixing House Breaker Panel for the Gas Mixing side is almost out of spare breaker slots and needs to be reviewed for increased capacity panel to replace it.
5. New computer rack replacements/additions for upcoming Run 13 & Rack Room computer infrastructure changes involving power distribution circuit (UPS and normal AC power) re-work.

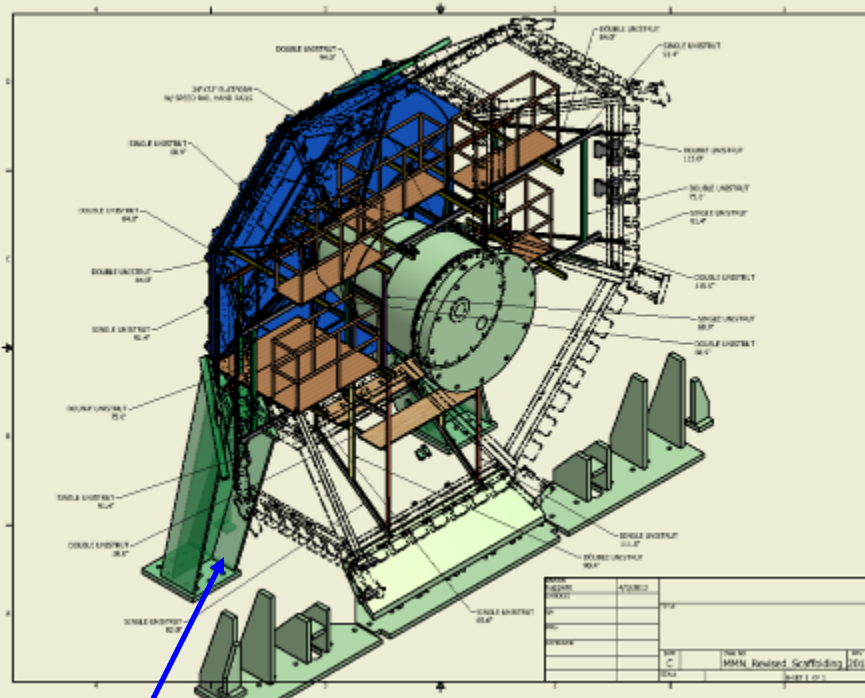
Additional Work for 2012, not yet scheduled

1. Replaced aging magnet hoses (CM only)
2. identify obsolete services passing through sill and remove them.
3. Revisit cover for services coming from IR through sill.
4. Plan for stripping out TEC electronics and services to free up TEC racks.
5. Add limit switch and improved spooling control for window washer cable.



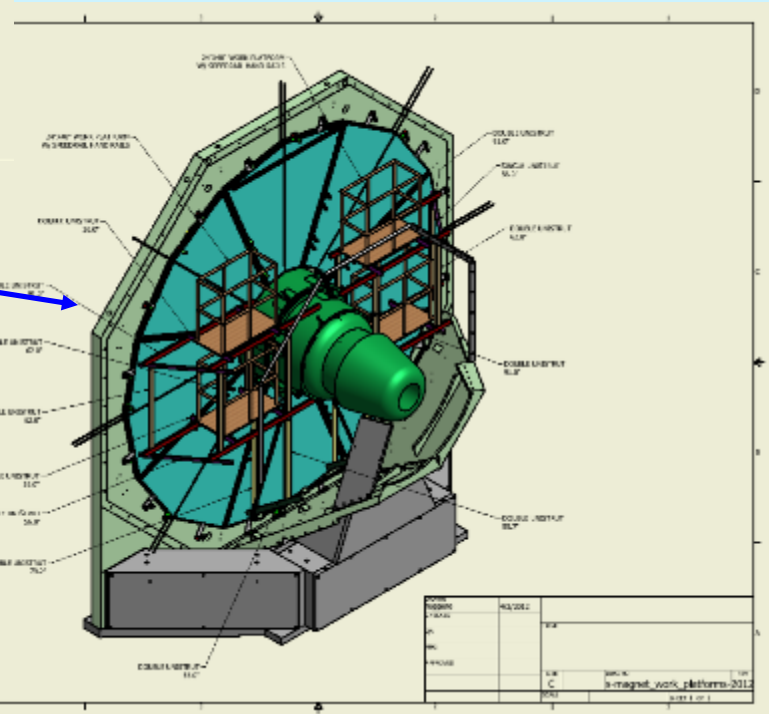
AH Crane variable speed drive
and wireless remote upgrade ??

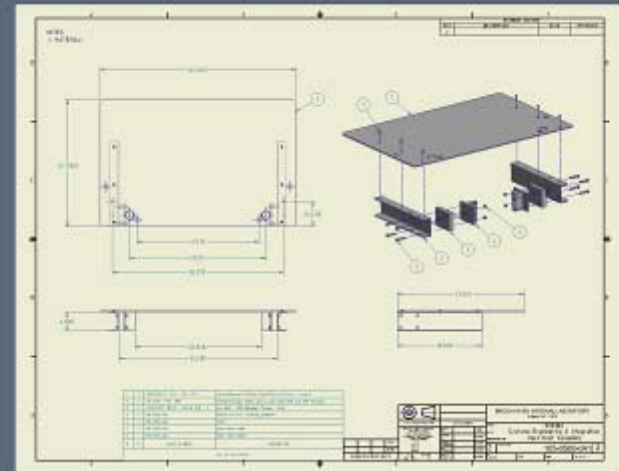




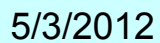
North & South internal
work platforms for next
summer's shutdown

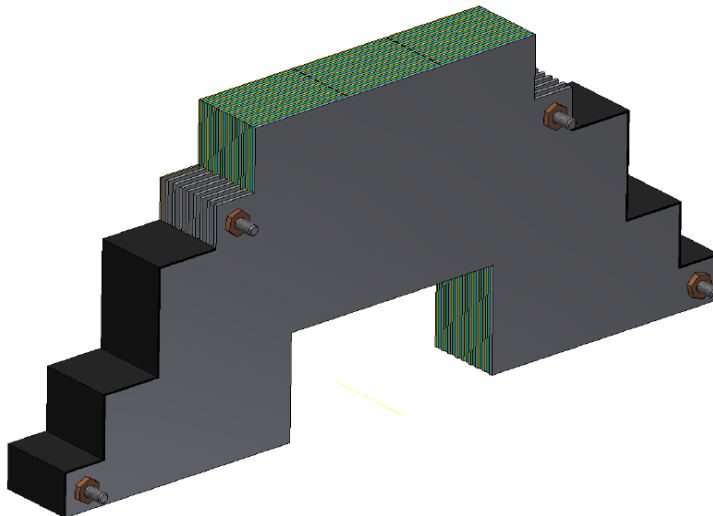
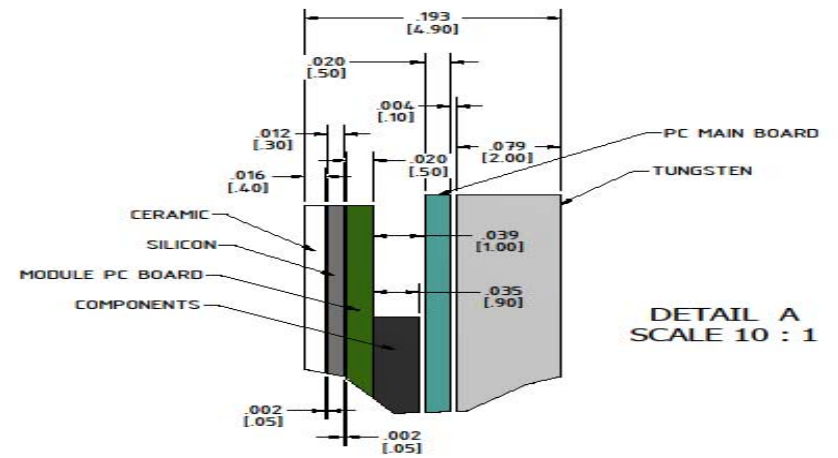
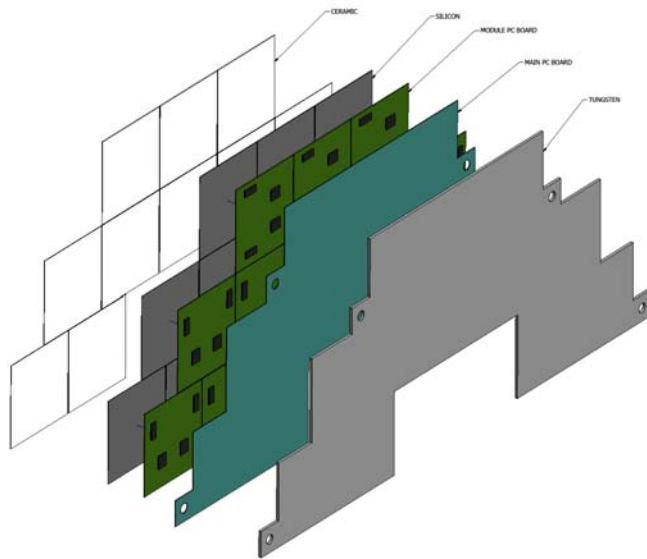
Sent analyses to C-A ESRC
for review this week



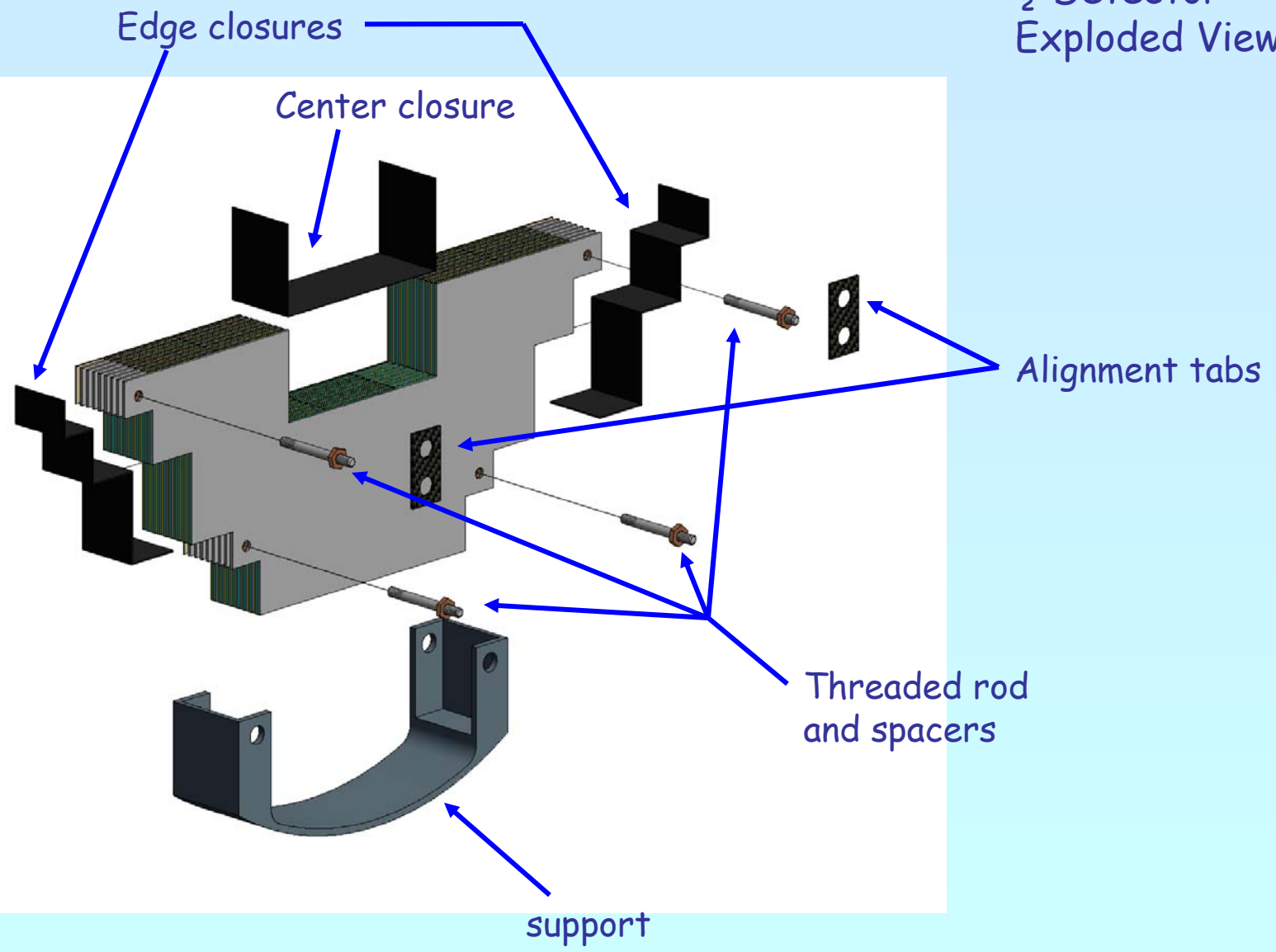


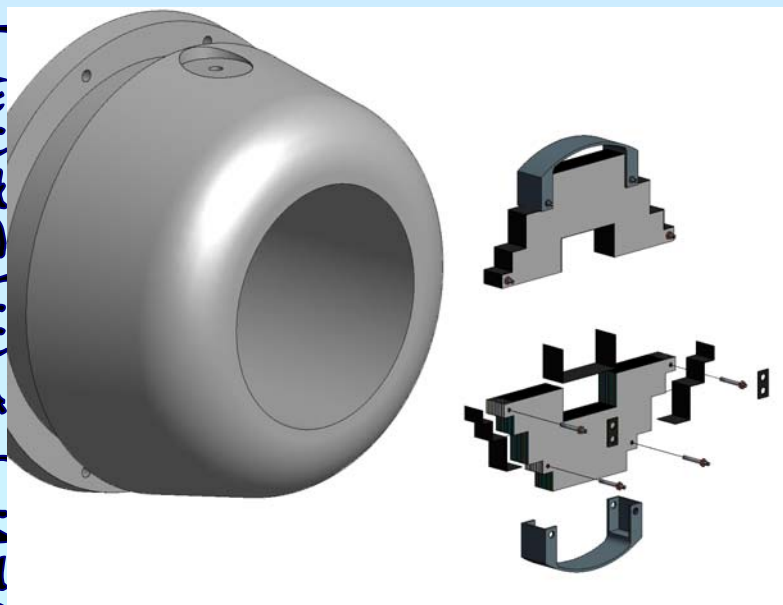
Modification to VTX HV rack roof platform to address interference with DC during north-south East carriage moves.



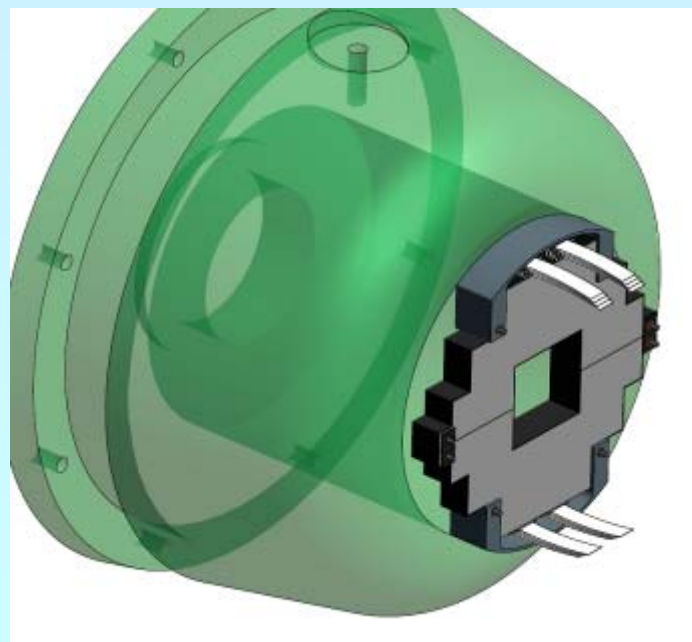


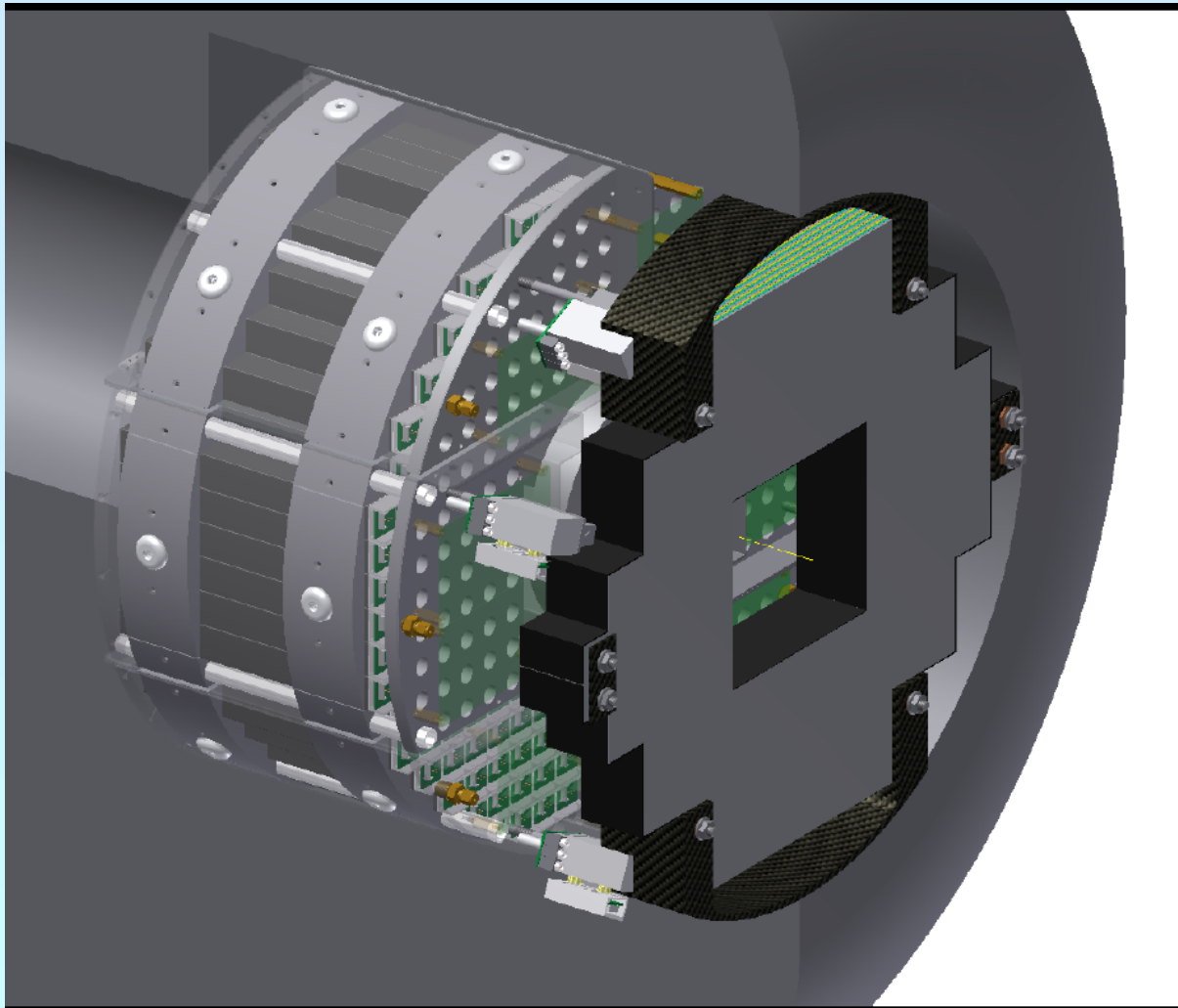
$\frac{1}{2}$ Detector Exploded View





Installation





Existing MPC
Issues to be
addressed:

Cooling
(incorporate chill
plates for water
cooling, or
forced air
cooling)

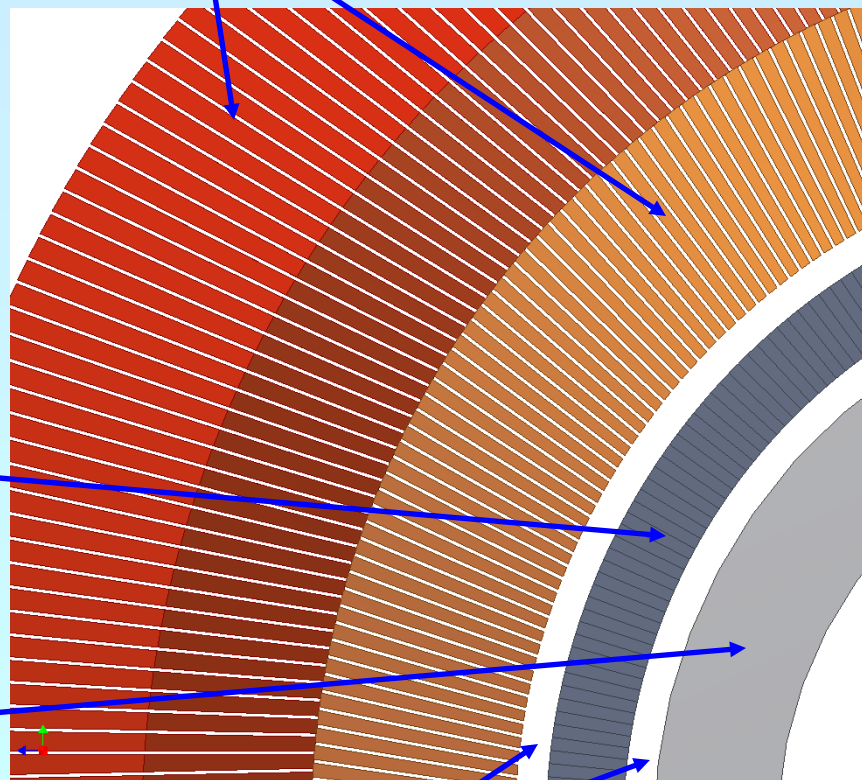
Interference
with MPC light
collectors
(redesign, move
to station 1?)

Routing MPC
cables (step
shape allows
space, change
South MPC
cables from flat)

Inner and outer Hadronic Calorimeters
256 segments each, steel and scintillator
0.9 meter total thickness, ~4.6 meters
long. Note how the outer and inner steel
segments are angled with respect to
radial lines (by 5 degrees, with the inner
HCal steel angled in the opposite
direction of the outer HCal steel). The
inner and outer steel plates are also
offset by a $\frac{1}{2}$ period.

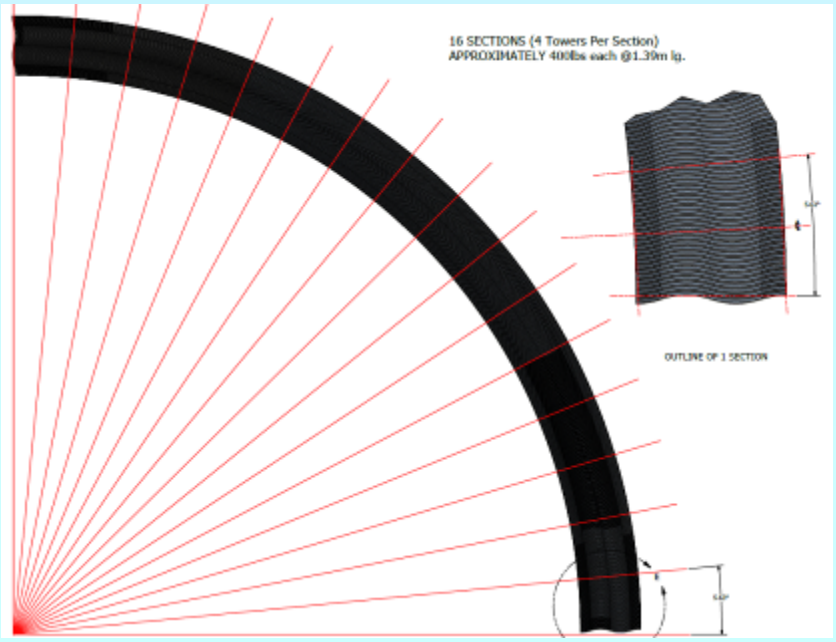
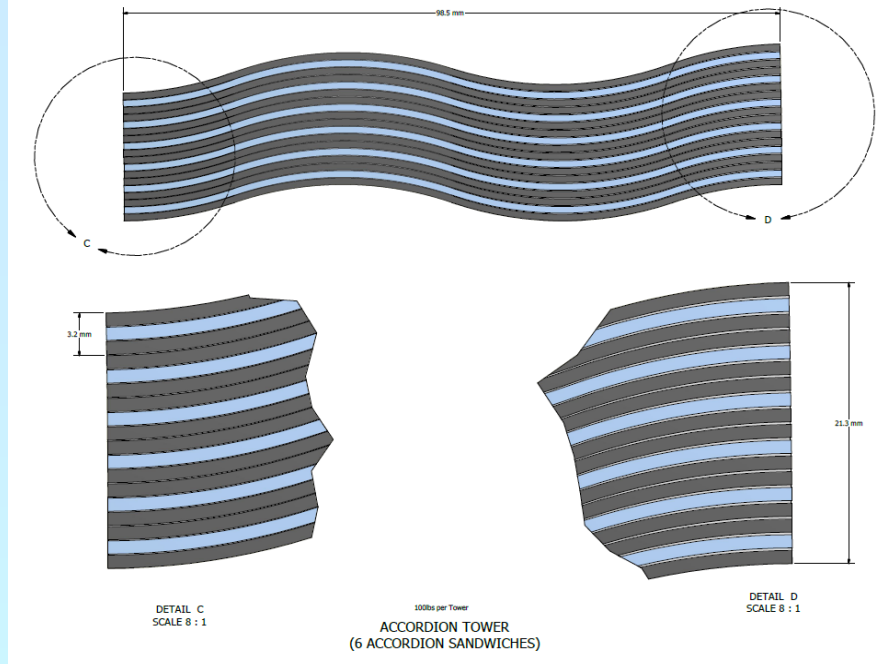
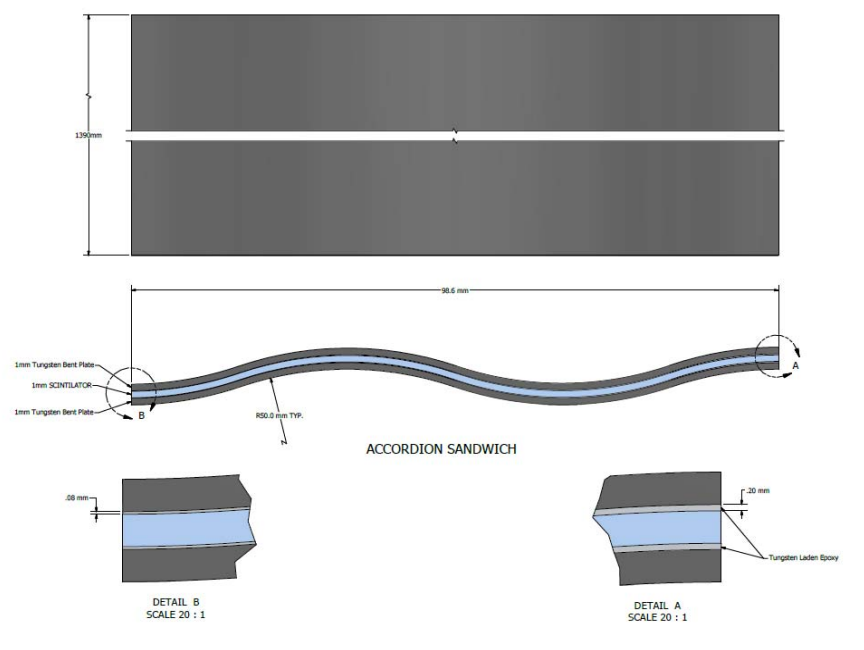
ElectroMagnetic Calorimeter
314 segments, Tungsten
and scintillator 0.1 m th
~2.8 m long

Superconducting solenoid
2 Tesla Magnet and cryostat
.70 m inner radius, .20 m th
~2 m long



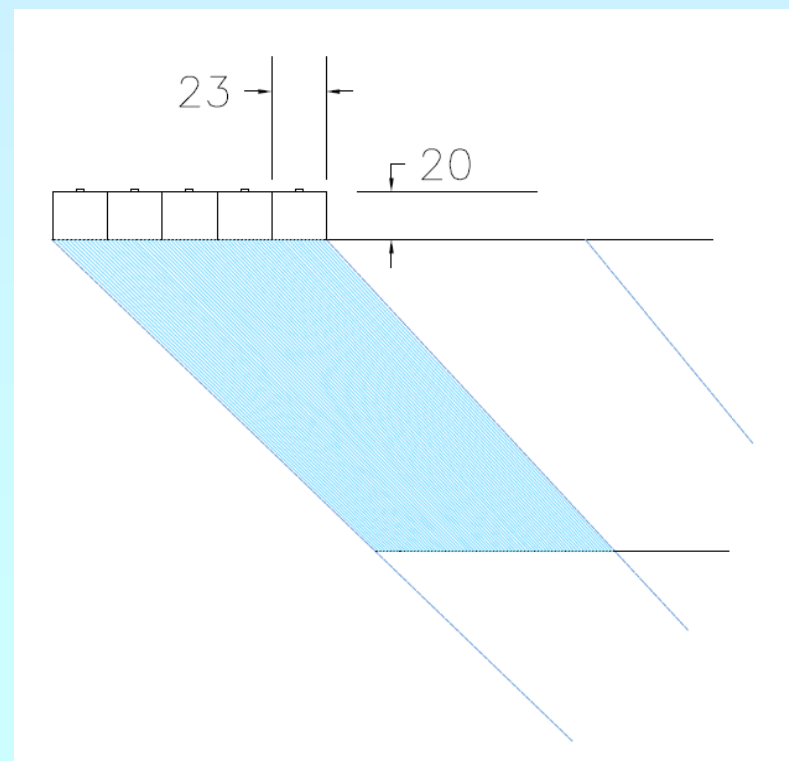
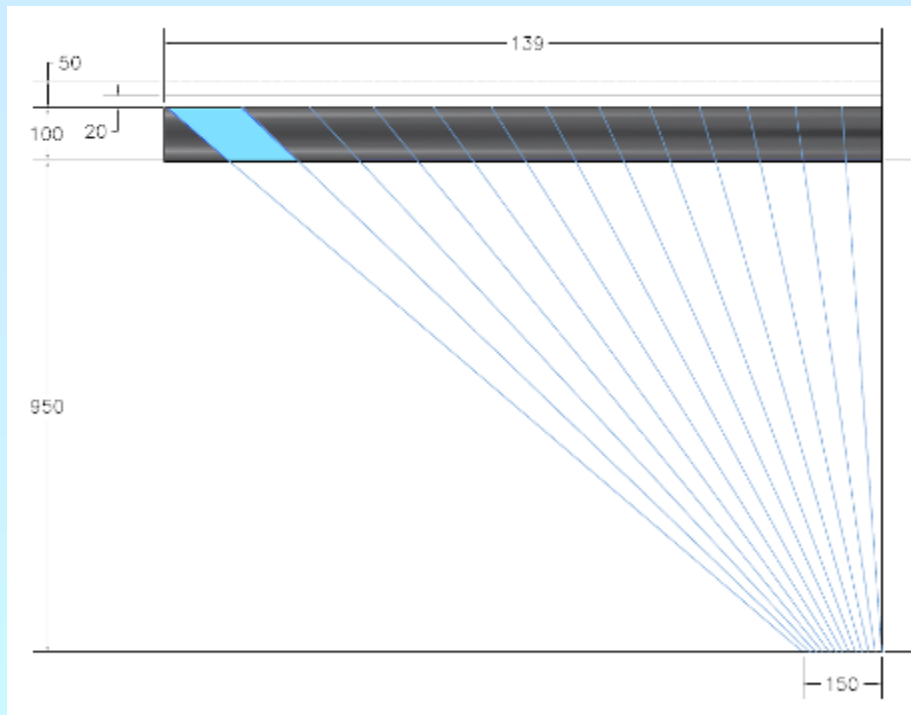
*Note: All dimensions
are current estimates
and subject to change*

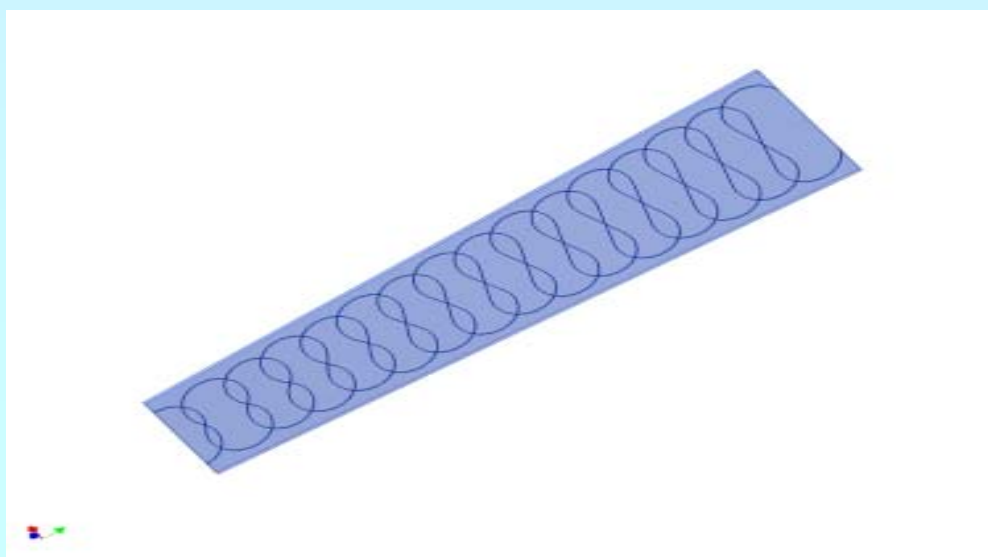
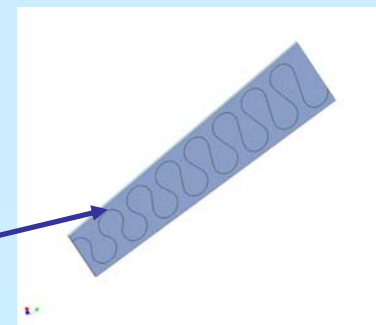
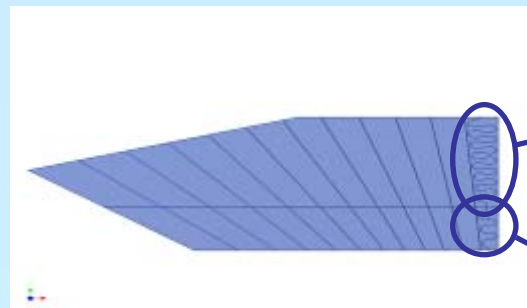
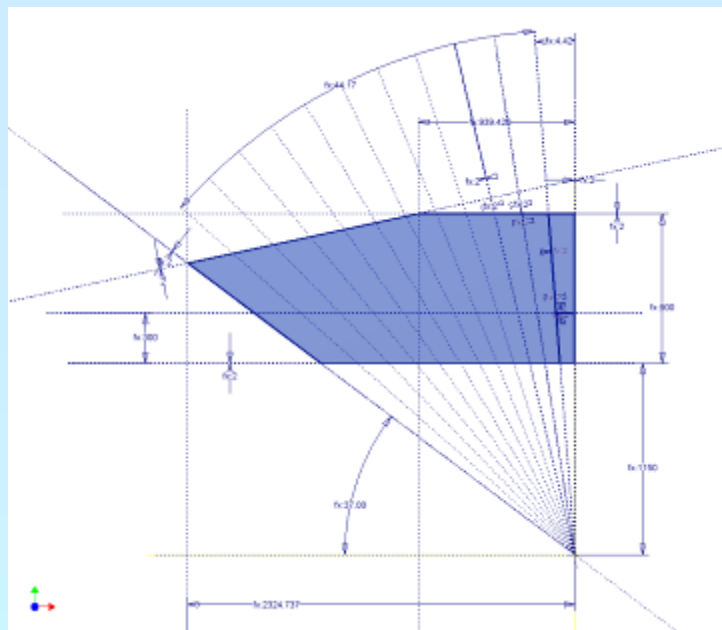
Envelope allowance for electronics,
support structure and detector services



Electromagnetic calorimeter segments using "accordion" shaped scintillators and tungsten plates to optimize detector sampling

Meeting with potntial vendor today

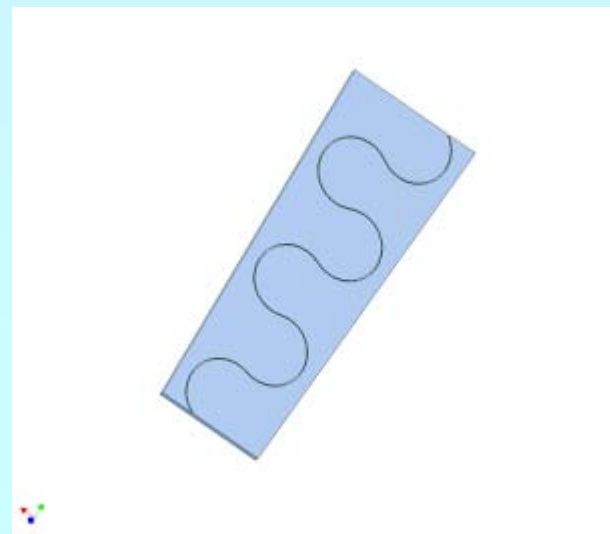
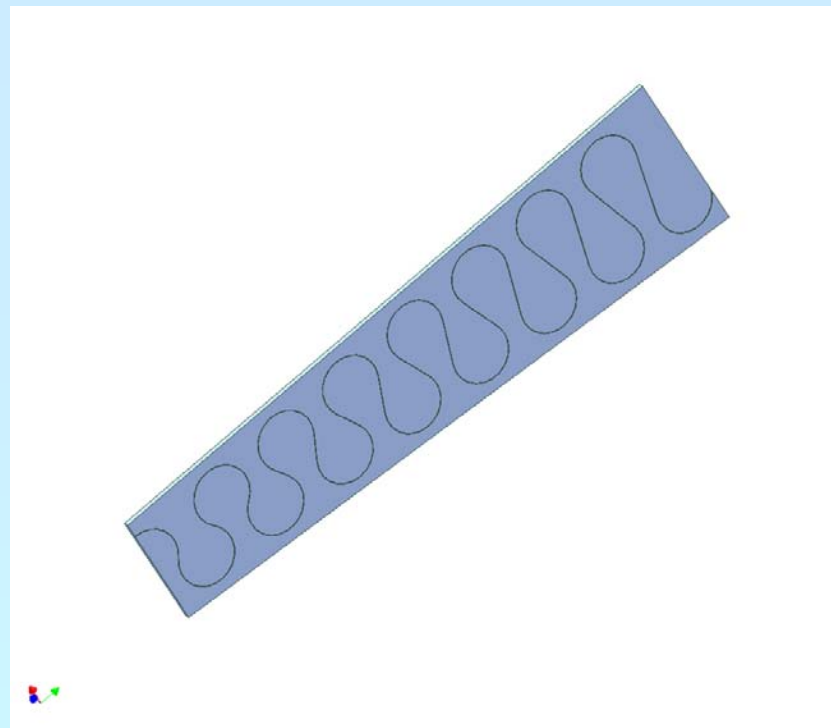


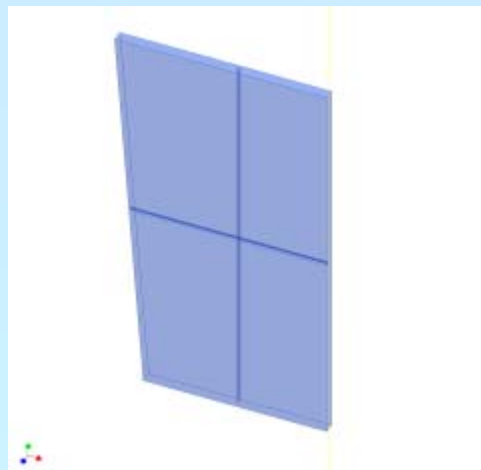
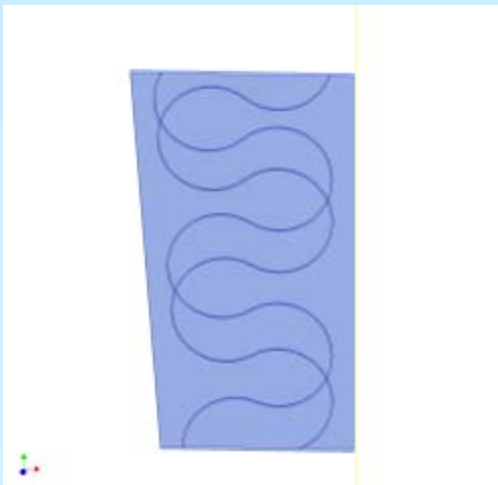


Design Concepts for each scintillator plate detail:

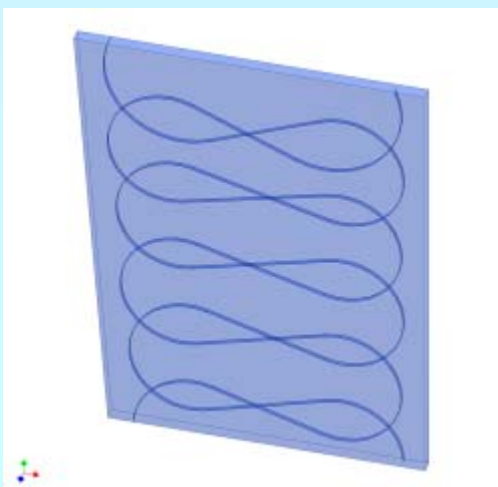
- Each plate has an optic fiber imbedded on both sides (illustrations at right are semitransparent so that the opposing patter can be seen)
- Minimum fiber bend radius is 2.75 cm
- Fiber is serpentine so as to come no closer than 2 cm to itself at any point and no closer than 1 cm to scintillator edges.
- Crossing of fibers in plane view is as close as possible to 90 degrees to minimize overlap.

(Note scintillator sections shown are not transparent..Opposite side fiber is not visible)





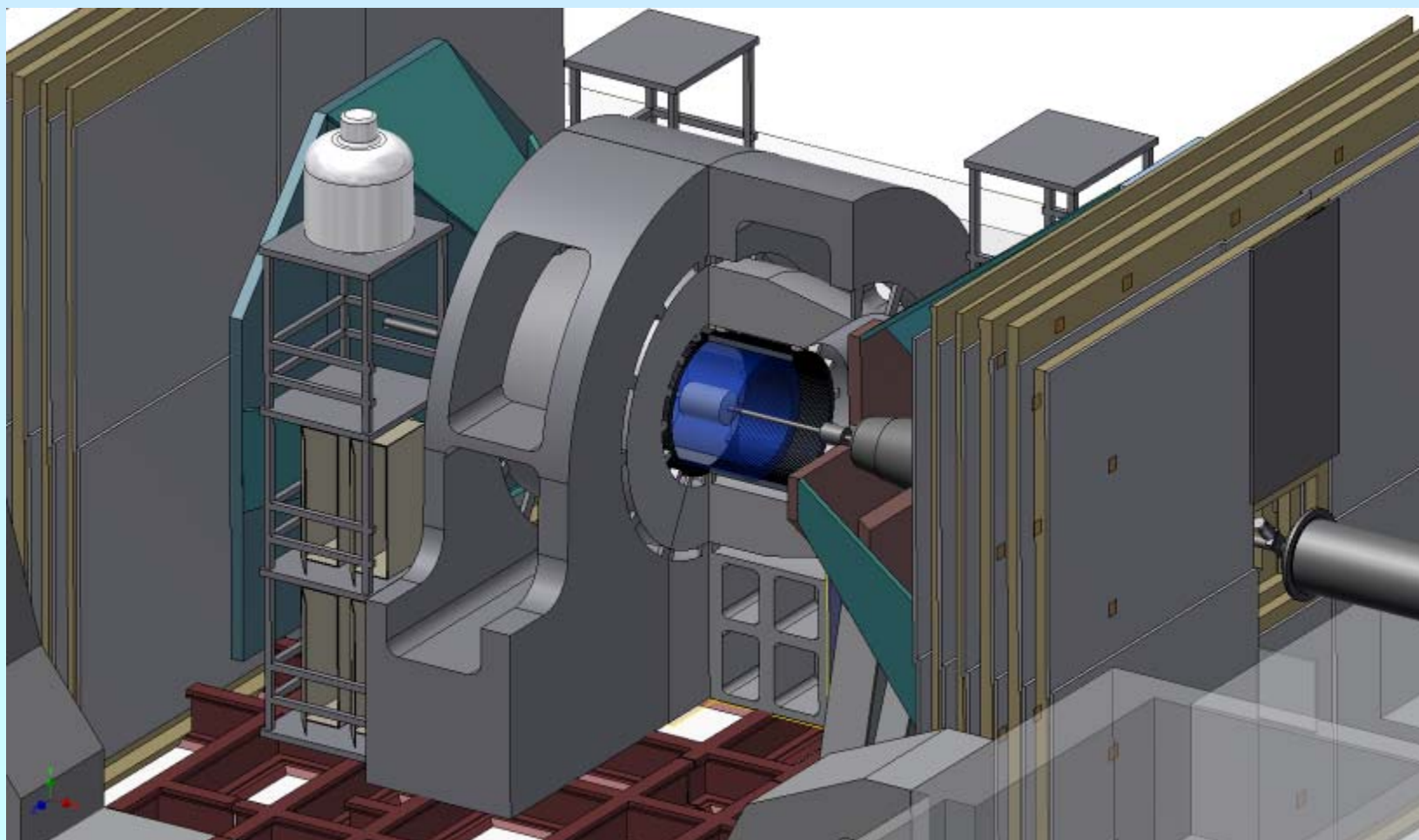
Inner Scintillator prototypes



Outer Scintillator prototypes

sPHENIX overall assembly, integration and maintenance concept

TECHNICAL SUPPORT



1. Configuration Management - New Procedures in progress
2. Revised SBMS subject area: Aerial lfts - We reviewed it and we already comply with all requirements

From Ray Karol:
3. Cell phone use is prohibited while driving cars and riding bikes. You are placing yourself in a potential unsafe situation if you do this and BNL Police are looking to give out tickets.
4. Over 30 POMs are due for calibration - they needed for maintenance days. Get them calibrated.
5. Lock doors when you leave one of our buildings and keep valuable materials secured at all times. See [C-A-OPM 1.20, C-A Policy for Accountability and Security of Valuable Materials](#)
6. Please remember to recycle only paper in the blue receptacles throughout the lab. BNL makes money selling paper recyclables with a local contractor and the contractor does not want food or any regular wastes mixed in with the paper. In the past BNL has almost lost the contract because the contractor refuses to sift through the paper wastes to remove food and other solid wastes (loose leafs, pens, pencils, etc.)
7. Keep access controls system crash cords and crash buttons clear of items and do not block them so they remain accessible at all times. These are life safety devices.



Near miss at PHENIX;
No PHENIX personnel
involved

Investigation under way

Immediate Lessons Learned Distribution

GAS CYLINDERS STRIKE WORKER

When moving objects with high center of gravity on wheeled carts be aware of all possible sources of loss of control: gaps on ramps; uneven surfaces; slope of travel; caster wheels' alignment; center of gravity of the load.



Event description:

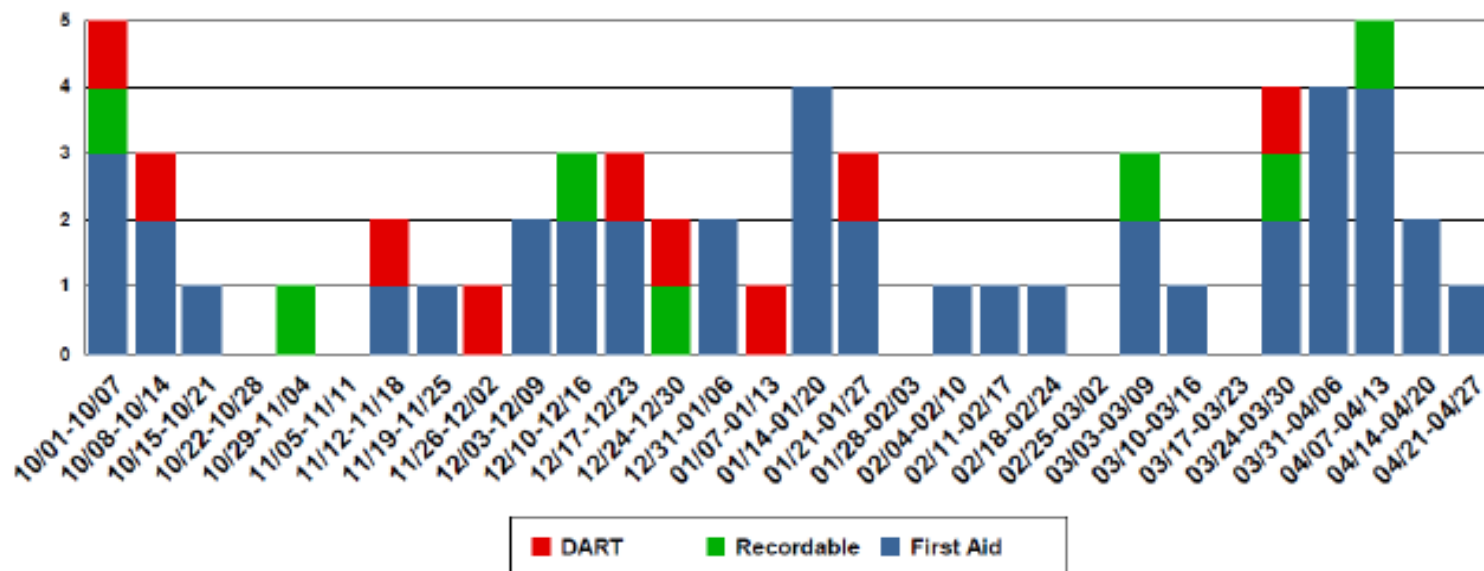
A cylinder cart weighing approximately 1200 pounds tipped over while being unloaded from a supplier's delivery truck striking the employee in the back and knocking him down. The worker received abrasions on his hand, elbow, and back and was released back to work after being seen at the OMC. The BNL employee was pulling the cart and the supplier's driver was pushing from the rear.



IMPORTANT POINTS POSSIBLY CONTRIBUTING TO THIS ACCIDENT:

- Gap of 1 -2 inches existed between diamond plate ramp and concrete surface.
- The truck was not parked on the concrete surface possibly contributing to the gap.
- Mobile caster wheels were in the front of the cart and may have turned sideways.
- Vendor's truck/liftgate was a replacement and had not been used to make this delivery before.
- Vendor was pushing from the top of the cylinder array above the center of gravity.
- The liftgate wooden platform is narrower than the cart wheel base possibly causing front caster wheel(s) to be misaligned.

Injuries Per Week (FY) As of 4/27/2012



Injury Status:

FY12 YTD: DART – 9, TRC – 16, First Aid – 41

FY11: DART – 27, TRC – 42, First Aid – 45

FY10: DART – 19, TRC – 33, First Aid – 52

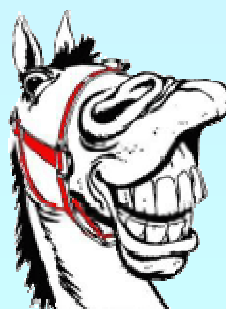
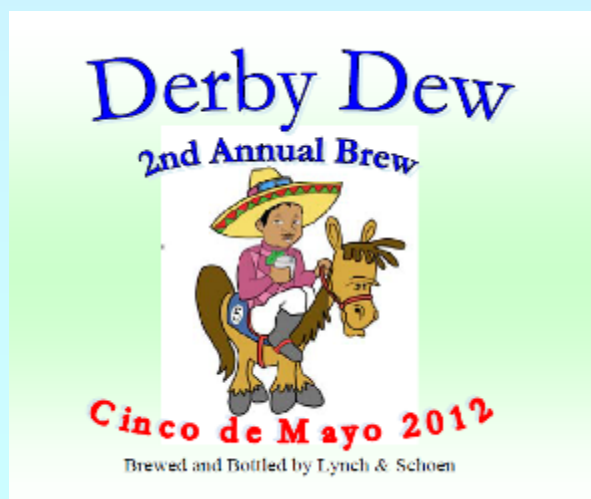
FY12 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seq/OccInj/BNLINjuries.aspx>

Recent Injuries

4/26/12	First Aid	An employee suffered multiple bruises as a result of being struck by a bundle of 6 cylinders. At the OMC, first aid was administered and the worker returned to normal duties.
4/20/12	First Aid	An employee reported soreness in hands arms and shoulders from work. At the clinic, first aid was given.
4/10/12	First Aid	An employee was exiting a manlift and fell, injuring a leg and foot. At the OMC, he received first aid.
4/4/12	First Aid	An employee reported possible exposure to lead and cadmium. Examination and blood tests revealed there was no exposure. First aid was given.
4/4/12	First Aid	An employee reported possible exposures. Follow up testing revealed a higher than normal lead content in his blood. He does a high level of non-work shooting at the range. This is not work incurred.

Recent Events		
4/27/12	Non-Reportable	A chemist was moving waste from a lab to the 90 day holding area. The container was dropped in a hallway and contents spilled. Contents included 55% water, and smaller amounts of methanol and iodine. IH, BNL FD, and the Environmental group responded and assisted in cleanup and disposal of all materials. There are no personnel or environmental issues at this time. (Event Link)
4/26/12	Non-Reportable	There was <one gallon of mineral oil spilled to pavement, with a small portion on adjacent soil, near Building 920. The spill was due to failure of an AC line (equipment failure). Grounds has responded for a complete cleanup. Equipment repair has begun. (Event Link)
4/25/12	Non-Reportable	A researcher alarmed the portal monitor at Building 801. Upon investigation, a spot of contamination, approximately 300 cts (corresponding to 30k dpm) was found on the left hand. The contamination was successfully removed. UPDATE 4/26/12: Upon further investigation, it was found that all of the emissions are a result of beta decay. Therefore, with consideration to energy and abundance, a 10% efficiency (vs. the initially used 1% efficiency) for the pancake GM probe is correct for use to establish activity in this instance. The correct activity is 3000 dpm. This is a non-reportable event under the ORPS SCBNL criteria. CAD has declined to make it a management concern at this time. (Event Link)
4/20/12	SC-3	An employee in the Main Gate Trailer (TR978) reset a tripped electrical circuit breaker without required training or PPE. Established / prescribed hazardous energy control process was not followed. (Event Link)
4/20/12	Non-Reportable	BNL Fire Rescue reported that it responded to a smoldering "Butt Stop" (Approved Metal Cigarette disposal can) located outside Building 902. There were no flames. (Event Link)

Where To Find PHENIX Engineering Info



#	Stable	Horse / Sire	Rank Rating	Trainer / Jockey	Last Start	Win
1		Daddy Long Legs Scat Daddy	149 7.53	A. O'Brien C. O'Donoghue	1st, 2012 UAE Derby (G2)	30-1
2		Optimizer English Channel	260 7.35	D. Lukas J. Court	9th, 2012 Arkansas Derby (G1)	50-1
3		Take Charge Indy A.P. Indy	36 7.82	P. Syme C. Borel	1st, 2012 Florida Derby (G1)	15-1
4		Union Rags Dike Union	3 8.03	M. Hatz J. Leaporux	3rd, 2012 Florida Derby (G1)	9-2
5		Dullahan Even the Score	9 7.96	D. Romans K. Desormeaux	1st, 2012 Blue Grass (G1)	8-1
6		Redemalster Empire Maker	7 7.97	B. Baltard M. Smith	1st, 2012 Arkansas Derby (G1)	4-1
7		Rousing Sermon Lucky Pupil	262 7.38	J. Hollendorfer M. Smith	3rd, 2012 Louisiana Derby (G2)	50-1
8		Creative Cause Giant's Causeway	10 7.97	M. Harrington J. Rosario	2nd, 2012 Santa Anita Derby (G1)	12-1
9		Trinniberg Turfesberg	170 7.50	B. Parboe W. Martinez	1st, 2012 Bay Shore (G3)	50-1
10		Daddy Nose Best Scat Daddy	47 7.70	B. Asmussen J. Leaporux	1st, 2012 Sunland Derby (G3)	15-1
11		Alpha Bernardini	14 7.95	K. McLaughlin R. Dominguez	2nd, 2012 Wood Memorial (G1)	15-1
12		Prospective Malibu Moon	192 7.48	M. Casse L. Contreras	9th, 2012 Blue Grass (G1)	30-1
13		Went The Day Well Proud Citizen	27 7.86	H. McElroy J. Velazquez	1st, 2012 Spiral (G3)	20-1
14		Hansen Tapit	6 7.98	M. Maker R. Dominguez	2nd, 2012 Blue Grass (G1)	10-1
15		Gemologist Tenow	8 7.92	T. Pletcher J. Castellano	1st, 2012 Wood Memorial (G1)	6-1
16		El Padrino Pulpit	61 7.88	T. Pletcher J. Castellano	4th, 2012 Florida Derby (G1)	20-1
17		Done Talking Broken Vow	152 7.53	H. Smith S. Russell	1st, 2012 Illinois Derby (G3)	50-1
18		Sabercat Bluegrass Cal	241 7.40	B. Asmussen C. Nakatani	3rd, 2012 Arkansas Derby (G1)	30-1
19		I'll Have Another Flower Alley	20 7.90	D. O'Neill M. Gutierrez	1st, 2012 Santa Anita Derby (G1)	12-1
20		Liaison Indian Charlie	234 7.41	B. Baltard R. Dejarano	9th, 2012 Santa Anita Derby (G1)	50-1

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

